AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for use by a <u>storage</u> switch in a storage network, the method comprising:

(a) receiving a plurality of packets by the switch, wherein the plurality of packets includes data packets and non-data packets; ~~and~~

(b) <u>classifying packets as data packets or non-data packets;</u>

~~(b)~~ <u>(c)</u> communicating the non-data packets to a first device and the data packets to a second device<u>, and</u>

<u>wherein said steps (a) – (c) are performed without buffering.</u>

2. (Original) The method of claim 1, wherein the data packets form a data request, wherein the data request includes at least some of the group including a read command, a write command, a ready-for-transfer indicator, read data, write data, and a response indicator.

3. (Original) The method of claim 2, wherein a ready-for-transfer indicator is either an R2T PDU or and FCP_XFR_RDY IU.

4. (Original) The method of claim 1, wherein the first device is a CPU.

5. (Original) The method of claim 1, wherein the first device and the second device are both included in the switch.

6. (Original) The method of claim 1, wherein the second device is a packet processing unit.

7. (Original) The method of claim 1, wherein the second device is a fabric.

8. (Original) The method of claim 1, wherein the second device is external to the switch.

9. (Original) The method of claim 1, wherein data packets include those packets that are for an established connection, that are for a recognized protocol, and that are data moving packets.

10. (Original) The method of claim 9, wherein data moving packets include any group of at least one packet that forms any one of a read command, a write command, a ready-for-transfer indicator, write data, read data, or a response indicator.

11. (Original) The method of claim 1, wherein the step of communicating includes utilizing a local header for the packet, wherein the local header includes information indicating if the packet is a data packet or a non-data packet.

12. (Original) The method of claim 1, wherein prior to communicating the data packets to a second device, processing the data packets in accordance with a virtualization function.

13. (Currently Amended) The method of claim 1, wherein steps (a) and (b) _ (c) are performed without buffering the data packets by said switch.

14. (Currently Amended) The method of claim 1, wherein steps (a) and (b) _ (c) are performed at wire speed.

15. (Currently Amended) The method of claim 1. wherein steps (a) and (b) _ (c) are performed by a storage processor in the switch.

16. (Currently Amended) A method for use by a <u>storage</u> switch in a storage network, the method comprising:

(a) receiving a plurality of packets by the switch;

(b) classifying the packets into non-data packets and data packets;

(c) communicating to a CPU only those packets classified as non-data packets; and

wherein steps (a) - (c) are performed without buffering.

17. (Original) The method of claim 16, wherein the data packets form a data request, wherein the data request includes at least some of the group including a read command, a write command, a ready-for-transfer indicator, read data, write data, and a response indicator.

18. (Original) The method of claim 16, wherein data packets include those packets that are for an established connection, that are for a recognized protocol, and that are data moving packets.

19. (Original) The method of claim 18, wherein data moving packets include any group of at least one packet that forms any one of a read command, a write command, a ready-for-transfer indicator, write data, read data, or a response indicator.

20. (Original) The method of claim 16, further including communicating to a second device those packets classified as data packets.

21. (Original) The method of claim 20, further including, prior to communicating data packets to a second device, processing the data packets in accordance with a virtualization function.

22. (Original) The method of claim 16, wherein steps (a) - (c) are performed at wire speed.

23. (Original) The method of claim 16, wherein steps (a) - (c) are performed by a storage processor in the switch.

24. (Currently Amended) A method for use in a storage network, the method comprising:

(a) receiving a plurality of packets by a linecard of a storage switch in the system network;

(b) identifying, by an identifier unit on the linecard, each packet as a data packet or a non-data packet;

(c) communicating non-data packets to a CPU on the linecard;

(d) communicating data packets to a second device for further processing; and

wherein steps (a) - (d) are performed without buffering.

25. (Original) The method of claim 24, wherein:

the plurality of packets form a plurality of requests; and

identifying includes identifying packets as part of a data request or not part of a data request, wherein the data request includes at least some of the group including a read command, a write command, a ready-for-transfer indicator, read data, write data, and a response indicator.

26. (Original) The method of claim 24, wherein the second device is on the linecard.

27. (Original) The method of claim 24, wherein the second device is external to the linecard.

28. (Original) The method of claim 24, further including, prior to communicating data packets to a second device, processing the data packets in accordance with a virtualization function.

29. (Original) The method of claim 24, wherein the identifier unit is a storage processor unit.

30. (Original) The method of claim 24, wherein steps (a) - (d) are performed at wire speed.

31. (Currently Amended) A method for use in a <u>storage switch of a</u> storage network, the method comprising:

receiving a plurality of packets by a linecard in the storage ~~network~~ <u>switch</u>;

for each packet, determining if the packet is for an established connection and for a recognized protocol;

if the packet is for an established connection and for a recognized protocol, determining if the packet is a data moving packet, otherwise classifying the packet as a control packet;

if the packet is a data moving packet, then classifying the packet as a data packet, otherwise classifying the packet as a control packet;

if the packet is classified as a control packet, communicating the packet to a CPU on the linecard;~~-and~~

if the packet is classified as a data packet, communicating the packet to a second device<u>, and</u>

<u>wherein all of the steps are performed without buffering</u>.

32. (Currently Amended) The method of claim 31, wherein all of the steps are performed ~~without buffering~~ <u>in said linecard</u>.

33. (Original) The method of claim 31, wherein all of the steps are performed at wire speed.

34. (Original) The method of claim 31, wherein the second device is on the linecard.

35. (Original) The method of claim 31, wherein the second device is external to the linecard.

36. (Original) The method of claim 31, wherein all of the steps are performed by a storage processor on the linecard, and wherein prior to communicating the packet to a second device, further processing the packet by the storage processor.

37. (Original) The method of claim 31, wherein the steps of communicating each include utilizing a local header for the packet, wherein the local header includes information indicating if the packet is a data packet or a control packet.

38. (Original) The method of claim 31, wherein a data moving packet includes a packet that forms any one of a read command, a write command, a ready-for-transfer indicator, write data, read data, or a response indicator.

39. (Original) A method for use in a storage network, the method comprising:
    receiving a plurality of packets by a linecard in the storage network;
    determining if the packet is a TCP packet or an FC frame and if the packet is for an established connection;
    if the packet is for an established connection and is a TCP packet, determining if the packet includes an iSCSI PDU;

if the packet includes an iSCSI PDU, determining if the PDU is a data moving PDU;

if the packet is for an established connection and is an FC frame, determining if the frame is a data moving frame;

if the packet is a data moving PDU or a data moving frame, then classifying the packet as a data packet, otherwise classifying the packet as a control packet;

if the packet is classified as a control packet, communicating the packet to a CPU on the linecard;

if the packet is classified as a data packet, further processing the packet and then communicating it to a device external to the linecard.

40. (Original) The method of claim 39, wherein all of the steps are performed without buffering.

41. (Original) The method of claim 39, wherein all of the steps are performed at wire speed.

42. (Original) The method of claim 39, wherein a data moving PDU includes any one of a read command PDU, a write command PDU, an R2T PDU, a write data PDU, a read data PDU, and a response PDU.

43. (Original) The method of claim 39, wherein a data moving frame includes any one of an FCP_CMND IU, FCP_XFR_RDY IU, FCP_DATA IU, and FCP_RSP IU.

44. (Original) A linecard for use in a storage network, the linecard comprising:
a CPU;

a classifier, the classifier coupled to the CPU, the classifier designed to communicate, without buffering, non-data packets to the CPU and data packets to a second device.

45. (Original) The linecard of claim 44, wherein the second device is on the linecard.

46. (Original) The linecard of claim 44, wherein the second device is external to the linecard.

47. (Original) The linecard of claim 44, wherein data packets include those packets that are for an established connection, that are for a recognized protocol, and that are data moving packets.

48. (Original) The linecard of claim 44, wherein the classifier is designed to insert into a local header an indicator of whether the packet is a data or a non-data packet.

49. (Original) The linecard of claim 44, wherein the classifier is a storage processor unit.

50. (Original) A switch for use in a storage network, the switch comprising:
a linecard, comprising:
    a first device;
    classification means for classifying packets into control packets and data packets and communicating control packets to the first device and communicating data packets to a second device, all without buffering.

51. (Original) The switch of claim 50, wherein the second device is on the linecard.

52. (Original) The switch of claim 50, wherein the second device is external to the linecard.

53. (Original) The switch of claim 50, wherein the classification means classifies a packet as a data packet if the packet is for an established connection with a device external to the switch, is for a recognized protocol, and is a data moving packet, and otherwise the classification means classifies the packet as a control packet, wherein the data moving packet includes any one of a read command, a write command, a ready-for-transfer indicator, write data, read data, and a response indicator.

54. (Currently Amended) A switch for use in a storage network, the switch comprising:
a linecard, comprising:
a port coupled to receive a plurality of packets from a device external to the switch;
a CPU; and
a storage processor in communication with the port and the CPU, the storage processor including a classifier unit, wherein the classifier unit receives the plurality of packets at an input and forwards at a first output in communication with the CPU control packets, the storage processor further processing data packets, all without buffering.

55. (Original) The switch of claim 54, wherein the classifier unit classifies a packet as a data packet if the packet is for an established connection with the device external to the switch, is for a recognized protocol, and is a data moving packet, and otherwise the classifier unit classifies the packet as a control packet.

56. (Original) The switch of claim 55, wherein the data moving packet includes a packet that forms any one of a read command, a write command, a ready-for-transfer indicator, write data, read data, or a response indicator.

57. (Original) The switch of claim 54, wherein the classifier unit classifies a packet as a data packet if the packet is for an established connection with the device external to the switch, is either a TCP packet that includes an iSCSI PDU or is an FCP frame, and is a data moving packet, and otherwise the classification unit classifies the packet as a control packet.

58. (Original) The switch of claim 54, wherein the data moving packet includes a packet that forms any one of a read command, a write command, a ready-for-transfer indicator, write data, read data, or a response indicator.

59. (Original) The switch of clam 54, wherein further processing includes performing a virtualization function.

60. (Original) The switch of claim 54, wherein the storage processor produces data packets at a second output in communication with a second device.

61. (Original) The switch of claim 54, wherein the linecard is designed to receive the plurality of packets and to produce control packets at a first output and data packets at a second output at wire speed.

62. (Currently Amended) A set of software instructions stored on at least one medium in a storage switch for use in a storage network, which instructions are executable by a processor, the instructions including:
　　instructions for receiving a plurality of packets by a linecard in the switch;
　　for each packet, instructions for determining if the packet is for an established connection and for a recognized protocol;

if the packet is for an established connection and for a recognized protocol, instructions for determining if the packet is a data moving packet, otherwise classifying the packet as a control packet;

if the packet is a data moving packet, instructions for classifying the packet as a data packet, otherwise classifying the packet as a control packet;

if the packet is classified as a control packet, instructions for communicating the packet to a CPU on the linecard; and

if the packet is classified as a data packet, instructions for communicating the packet to a second device, and

wherein said instructions operate without buffering of packets.

63. (Original) The set of instructions of claim 62, wherein the data moving packet includes a packet that forms any one of a read command, a write command, a ready-for-transfer indicator, write data, read data, or a response indicator.